

# Types of Errors in Python

## 1) Syntax Error

This error happens when the code violates python's grammar rules.

Example: `print ("Hello`      Missing the closing parenthesis.

## 2) Runtime Error

This code is Written correctly, but an error happens while the program is running.

Example: `10 / 0`      Division by zero is not allowed.

## 3) Name Error

Occurs when using a variable or function name that is not defined.

Example: `print (my name)`      The variable my name was never defined.

## 4) Type Error

Happens when you try to combine or use incompatible data types.

Example: `age = 20`      You can't add a string and num.

`Print (age+ 5)`

## 5) Value Error

This error occurs when the value is of the right type, but not appropriate for the operation.

Example: `num = int ("hello")`      You can't convert the word hello into an integer.

## 6) Index Error

Occurs when you try to access a position that doesn't exist in a list.

Example: `my list = [1, 2, 3]`

`Print (my list {5})`    There is no item at index 5.

## 7) Key Error

Happens when trying to access a dictionary key that does not exist.

Example: `student = {"my name": "maryam"}`    The key "age" isn't in the dictionary.

`Print (student ["age"]`